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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,910	06/28/2000	ROBERT SCHULZ	017835/0362	8730

7590 08/13/2003  
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14  
EXAMINER

IP, SIKYIN

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/529,910

Applicant(s)

SCHULZ ET AL.

Examiner

Sikyin Ip

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restriction*

1. Applicant's election with traverse of Group I, claims 1-12 and 14 in Paper No. 10, filed October 19, 2001 is acknowledged. The traversal is on the ground(s) as set forth in Paper No. 10. This is not found persuasive because the burden to the examiner has been shown by different classification. Moreover, applicants argue that the alloy mentioned by examiner did not contain Mg as claimed. That is because it is a different product. Applicants argue that the instant claimed process would not result in a nanocomposite. Applicants' attention is directed to claim 1, preamble and step c) which recite that nanocomposite is formed.

The requirement is still deemed proper and is therefore made FINAL.

### *Oath/Declaration*

2. A new oath or declaration is required because the addresses of applicants in page 4 of the instant oath were amended. The wording of an oath or declaration cannot be amended. If the wording is not correct or if all of the required affirmations have not been made or if it has not been properly subscribed to, a new oath or declaration is required. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

*Specification*

3. The disclosure is objected to because of the following informalities: In page 2 of the instant specification that, the brief description of the drawing for Figures 4-5, 10-11, 17-18, and 28-29 are not being complied with the 37 C.F.R. §1.74. It is required that a separate brief description for each figure including sub-figures. See MPEP § 608.01 (f) and 608.02. Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of 37 CFR 1.71(a)-(c):

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe

completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

© In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

6. The specification is objected to under 37 CFR 1.71 because the specification as originally filed fails to provide support for the invention as now claimed.

7. Claims 1-12 and 14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

8. Amended claims 1 and 8 recited negative limitation to exclude  $\text{Mg}_2\text{NiH}_4$  which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

11. Claim 1 is indefinite because the Mg based nanocomposite composition as recited in the preamble is unclear. The expressions “corresponding” and “so-obtained” in steps a) to c) are confusing or superfluous.

12. Claims 2-5 and 8-11 are indefinite because the meaning of the expression “use is” is unclear.

13. Claim 4 is indefinite because the phrase “and z ... -0.3 to 0.3” has been recited twice.

14. Claim 8 is indefinite because it is unclear what is “Ty” means.

15. Claims 9-11 are indefinite because the expression “such” renders the claim indefinite; it is unclear whether the limitations following the expression are part of the claimed invention or not, and the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Ex parte Koch, 66 USPQ 490 and Ex parte Steigerwald, 131 USPQ 74.

16. Claims 11 and 14 are rejected under 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim.

17. Claim 11 fails to further limit the subject matter of a previous claim because claim 10 requires the mixture amount is equal to 5% which is outside the 3% as

recited in claim 11.

18. Claim 14 fails to further limit the subject matter of a previous claim because the intended use of a composition or product were held not to constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138, 33 CCPA 879 (1946) and In re Heck, 114 USPQ 161 (CCPA 1957). Moreover, an invention based upon the discovery of an unobvious use of an old composition must be claimed in a method or process claim, not product claims. See In re Moreton, 288 F2D 708, 129 USPQ 227 (CCPA 1961), and In re Hack, 245 F2d 236, 115 USPQ 161 (CCPA 1957).

19. New use of a known composition of matter can only be claimed in a process or method format. A “use” is not a statutory class of invention. Clinical Products Limited v. Brenner, Comr. Pats., 149 USPQ 475.

### ***Claim Rejections - 35 USC § 103***

20. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 1-12 and 14 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 5554456 to Ovshinsky et al or USP 5162108 to Bogdanovic (both references were cited in PTO-1449).

23. The cited reference(s) disclose(s) the features including the claimed composite composition, providing hydride step, mixing the hydride with other materials, and ball milling/grinding. The features relied upon described above can be found in the reference(s) at: Ovshinsky et al (col. 12, line 32 to col. 13, line 15, claims 1-34) and Bogdanovic (claims 1-3 and 6). The difference between the reference(s) and the claims are as follows: cited references disclose ball milling but do not disclose the final powder size is in nano unit. However, it is known the nano powder is ground by ball milling so that it is within ambit of ordinary skill artisan to form nano composite by ball milling in order to increase surface area of the composite material.

### *Conclusion*

The above rejection relies on the reference(s) for all the teachings expressed in the



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text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been met by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121.


***Examiner Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (703) 308-2542. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (703)-308-1146.

The facsimile phone numbers are (703) 872-9310 (non-final Official Paper only), (703) 872-9311 (after-final Official Paper only), and (703) 305-7719 (Unofficial Paper only). When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

  
\_\_\_\_\_  
**SIKYIN IP**  
**PRIMARY EXAMINER**  
**ART UNIT 1742**

**S. Ip**  
August 11, 2003